

**REMARKS**

This Application has been carefully reviewed in light of the Office Action mailed December 28, 2004 ("Office Action"). Claims 1-27 are currently pending.

**Comments on Claim 3**

The Office Action indicated that reference numeral "3" of Claim 3 should be changed to "1". Applicant has made the necessary correction.

**Section 112 Rejections**

Claims 2 and 19-27 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended Claim 2 to address the antecedent basis rejection of the claim.

With regards to Claims 19-27, the test for indefiniteness is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." M.P.E.P. §2173.02. Claims 19-27 comply with this standard and therefore the rejection is improper.

It appears from the rejection that the Office Action is rejecting the claims as indefinite because of the difficulty in correlating the claim terms with corresponding terms described in the specification. Although this is not a proper basis for a section 112, second paragraph indefiniteness rejection, in order to expedite prosecution, Applicant directs the PTO to certain salient points in the specification:

Multiple interconnect hubs 14 may be tied together to provide additional flexibility or survivability if desired.

(Page 9, lines 26-28.) Applicant additionally directs the PTO to the text on FIGURE 2A (reciting "TO ADDITIONAL HUB(S")"), FIGURE 3A (reciting "FIBER OPTIC LINKS FOR RMT HUB(S")"), and FIGURE 4 (reciting "FIBER TO OTHER HUB"). Applicants respectfully submit that those skilled in the art would understand what is being claimed in Claims 19-27 when Claims 19-27 are read in light of the specification. Accordingly, Applicant requests removal of this rejection.

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to FIGURE 2B. This sheet replaces the original sheet containing FIGURE 2B. Per the Examiner's request, previously omitted element 18 has been added to FIGURE 2B.

### Section 102 Rejections

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,469,283 issued to Vinel et al. ("Vinel"). Applicant submits that *Vinel* does not disclose, or even teach or suggest, at least the following limitation of amended independent Claim 1:

synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub

With regards to the above limitation, the Office Action cites in part the following portion of *Vinel* as disclosing *synchronously* transmitting data between at least two of the audio connection devices through the at least one interconnect hub:

FIG. 1 shows one embodiment of a connection system in accordance with the invention comprising a group of 256 customer premises networks CPN0 through CPN255 connected by an optical distribution network DN to a switching center EX which is part of a broadband asynchronous transfer mode telecommunication network.

(Column 4, lines 24-29, emphasis added.) As can be seen in the above disclosure, *Vinel* discloses asynchronous communications, not synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub. With regards to such asynchronous communications, *Vinel* additionally recites the following:

The control unit CU commands the connection network CN to set up connections C1 through C4 to connect the outputs of the encyphering devices CY to the input of the control central office termination equipment ETE0. The encyphering devices CY provide at their outputs digital signals in the form of cells to a standardized asynchronous transfer mode format.

(Column 5, lines 12-18, emphasis added.)

There is strictly speaking no synchronization between the clocks of the various customer premises networks and those of the central office termination equipments. These clocks are merely plesiochronous. Each customer premises network uses the time it receives a control message as a reference to start measuring the duration of the delay time assigned to it.

(Column 8, lines 14-19, emphasis added.) Accordingly, *Vinel* does not disclose

synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub. For at least this reason, independent Claim 1 is allowable over *Vinel*.

Claim 1 was additionally rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,517,232 issued to Heidemann, et al. ("*Heidemann*"). Applicant submits that *Heidemann* does not disclose, or even teach or suggest, at least the following limitation of amended independent Claim 1:

synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub

With regards to the above limitation, the Office Action recites *Heidemann*'s subscriber 111 as disclosing audio connection devices. (Office Action, Page 3). And, with regards to synchronously transmitting data between at least two of the audio connection devices through the at least one interconnect hub, the Office Action cites the following portions of *Heidemann*:

From each ONT, as shown for the optical network termination ONT.sub.i, an electrical access network, generally a coaxial cable network, which is also branched several times as shown, extends to cable television connections at subscribers, of whom one subscriber 111 is represented symbolically by a house. The access network terminates at a drop point near each subscriber. In the example shown, a line 108 of the electrical access network is branched at a cable branching element 109 into four lines 110, each of which has eight branches that are branched again into two lines at the subscriber 111. Thus, the composite cable TV signal made available at the center is distributed via the fiber-optic distribution network and the electrical access networks to a plurality of subscribers, 4096 subscribers in the example being considered.

(Column 4, lines 15-28) Applicant respectfully submits that the above recitation does not disclose synchronously transmitting data between at least two of the audio connection devices. The Office Action identifies subscriber 111 as the claimed audio connection device, but data is originated at a central station 100 and transmitted to a subscriber 111 in *Heidemann*. The reference can not be read to disclose that subscriber 111 synchronously transmits data to another subscriber through an interconnect hub. Thus, Applicant respectfully submits that the above recitation does not disclose synchronously transmitting

data between at least two of the audio connection devices. Accordingly, for at least this reason, independent Claim 1 is allowable over *Heidemann*.

Claims 1 and 3 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,909,431 issued to Kuthyar, et al. ("Kuthyar"). Applicant submits that neither *Kuthyar* does not disclose, or even teach or suggest, at least the following limitation of amended independent Claim 1:

connecting the at least one interconnect hub to a plurality of audio connection devices to form a ring network of audio connection devices with the interconnect hub at the center of the ring network

*Kuthyar* does not disclose connecting the at least one interconnect hub to a plurality of audio connection devices to form a ring network of audio connection devices with the interconnect hub at the center of the ring network. *See, e.g., Kuthyar's configuration of FIGURE 1 and corresponding disclosure.* Accordingly, for at least this reason, independent Claim 1 is allowable over *Kuthyar*.

Claims 4 and 5 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,483,535 issued to McMillen, et al. ("McMillen"). Claims 4 and 5 were additionally rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,893,302 issued to Hemmady, et al. ("Hemmady"). Applicant submits that neither *McMillen* nor *Hemmady* disclose, or even teach or suggest, at least the following limitations of amended independent Claim 4:

a plurality of connection devices coupled to the hub, each connection device receiving analog signals from at least one signal source and converting the received analog signals into digital data signals.

*McMillen* and *Hemmady* do not disclose converting received analog signals into digital data signals. Accordingly, for at least this reason, independent Claim 4 is allowable over *McMillen* and *Heidemann*.

Claims 7-12 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,577,414 issued to Feldman, et al. ("Feldman"). Applicant submits that *Feldman* does not disclose, or even teach or suggest, at least the following limitations of amended independent Claim 7:

each connection device receiving analog signals from at least one signal source and converting the received analog signals into digital data signals

With regards to the above limitations, the Office Action recites *Feldman*'s Optical-Electrical converter (OEC) 150 as disclosing connection devices. (Office Action, Page 5). With regards to the OEC, the Office Action further states that "device 150 receives analog signal from subscriber 180" and cites the following portion of *Feldman* as disclosing converting the received analog signals into digital data signals:

An advance is made over the prior art in accordance with the principles of the present invention directed to the integration of signals carrying broadcast CATV services into a FTTH/C network that also provides high-speed Internet access and telephony. Essentially all residential telecommunications services are provided in a single network, based on a single fiber and a single simple transceiver in an optical network unit. Multiple services (e.g., analog video, digital video, cable-modem based Internet access) are multiplexed using separate rf subcarriers (subcarrier multiplexing or SCM) and the delivered signals are compatible with existing consumer appliances (e.g., TVs, VCRs, cable modems, etc.).

(Column 2, lines 53-64.) While analog and digital video are mentioned in the above recitation, the above recitation does not disclose converting the received analog signals into digital data signals. Additionally, *Feldman* discloses the OEC as operating in the following manner:

As the name implies, the OEC is essentially a transparent optical-to-electrical converter.

(Column 6, lines 49-52). Disclosure of an OEC, in and of itself, does not disclose converting the received analog signals into digital data signals. Accordingly, for at least this reason, independent Claim 7 is allowable over *Feldman*.

Claims 7-12 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,482,980 issued to Korowitz, et al. ("Korowitz"). Applicant submits that *Korowitz* does not disclose, or even teach or suggest, at least the following limitations of amended independent Claim 7:

a central hub coupled to the fiber optic concentrated ring and receiving the digital data signals for routing to the connection devices

With regards to the above limitation, the Office Action recites *Korowitz*'s controller stations 10 and 11 as disclosing connection devices (Office Action, Page 6) and *Korowitz*'s host computer station 14 as disclosing a central hub (Office Action, Page 7). With regards to a disclosure of a central hub coupled to the fiber optic concentrated ring and receiving the digital data signals for routing to the connection devices, the Office Action recites the following portion of *Korowitz*:

The operator station 12 and host computer station 14 are connected to the global highways by a pair of local data network cables 21 and 23 and repeater nodes 26 and 27. The operator station will normally include a cathode ray tube and a keyboard with the appropriate microprocessor and associated elements to provide for interfacing an operator with the system for monitoring and other operating functions. The operator station will also frequently include a printer and disc file.

The host computer is connected to the local data network by the host computer interface HCI. It can be used for a number of control functions.

The most used type of computer control carried out by the control stations will be a supervisory type of control wherein the host computer generates setpoint updates for the control loops and transmits those values over the data highway to the appropriate control station which then carries out a normal PID control function by means of a supervisory algorithm in the control station.

(Column 2, lines 63-68 and column 3, lines 1-14.) Applicants respectfully submit that the above disclosure does not disclose a central hub coupled to the fiber optic concentrated ring and receiving the digital data signals for routing to the connection devices. For example, no disclosure is made as to the computer station 14 routing the digital data signals from one connection device to another. Accordingly, for at least this reason, independent Claim 7 is allowable over *Korowitz*.

Claims 13-18 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,706,278 issued to Robillard, et al. ("Robillard"). Applicant submits that *Robillard* does not disclose, or even teach or suggest, at least the following limitations of amended independent Claim 13:

a central hub coupled to the fiber optic concentrated ring and receiving the digital data signals for routing to the connection devices

With regards to the above limitation, the Office Action recites *Robillard*'s nodes 18 and 20 as disclosing connection devices (Office Action, Page 8) and *Robillard*'s node 12 as disclosing a central hub (Office Action, Page 8). With regards to a disclosure of a central hub coupled to the fiber optic concentrated ring and receiving the digital data signals for routing to the connection devices, the Office Action recites the following portion of *Robillard*:

The system 10 uses the distributed local intelligent nodes 12-20 to sense and/or control physical parameters and actuators with messages being passed across redundant serial buses 21,22,23 whenever sense or control information changes.

(Column 4, lines 50-56.) Applicants respectfully submit that the above disclosure does not disclose a central hub coupled to the fiber optic concentrated ring and receiving the digital data signals for routing to the connection devices. For example, following the argument presented in the Office Action, no disclosure is made as to the node 12 routing the digital data signals from one node (e.g., nodes 18) to another (e.g., node 20). Accordingly, for at least this reason, independent Claim 13 is allowable over *Robillard*.

Claims 13-18 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,745,269 issued to Chawki, et al. ("Chawki"). Applicant respectfully disagrees. Applicant submits that *Chawki* does not disclose, or even teach or suggest, at least the following limitations of independent Claim 13:

converting the received analog signals into digital data signals

With regards to the above limitations, the Office Action cite the following portion of *Chawki* as disclosing converting the received analog signals into digital data signals:

The messages to be broadcast are, according to one example, in the form of STM1 or STM4 or STM16 frames according to the SDH standard provided by a SDH transmitter TE. These information elements are broadcast to the other stations S1-S4 that will filter each of these wavelengths

(Column 5, lines 11-16.) Applicants respectfully submit that the above recitation does not disclose converting the received analog signals into digital data signals. Additionally,

Applicant was unable to find a discussion of analog signals in any portion of *Chawki*. For at least this reason, Applicant submits that independent Claim 13 is allowable over *Chawki*.

Independent Claim 19's only rejection was a rejection under 35 U.S.C. §112, which is believed to be overcome for the reasons provided above. Accordingly, Claim 19 is allowable. Furthermore, independent Claim 19 recites certain limitations that are similar, although not identical, to limitations of Claim 7. Therefore, for at least this additional reason, Claim 19 is allowable over the cited references.

Applicants' dependent Claims 2-3, 5-6, 8-12, 14-18, and 20-27 are allowable based on their dependence on the independent Claims 1, 4, 7, 13 and 19 and further because they recite numerous additional patentable distinctions over the cited reference of the rejection. Because Applicants believe they have amply demonstrated the allowability of independent Claims 1, 4, 7, 13 and 19 over the cited references of the rejection, and to avoid burdening the record, Applicants have not provided additional detailed remarks concerning these dependent claims. Applicants, however, remain ready to provide such remarks if it becomes appropriate to do so.

### **Section 103 Rejections**

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Vinel* in view of U.S. Patent No. 5,757,801 issued to Arimilli ("Arimilli"). Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over *McMillen* in view of *Arimilli*. Applicants respectfully submit that the §103 rejections of these claims are moot in view of the arguments provided above in conjunction with Claims 1 and 4. Favorable action is requested.

**CONCLUSION**

Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all the pending claims.

If the Examiner believes a telephone conference would advance prosecution of this case in any way, the Examiner is invited to contact Brad Williams, the Attorney for the Applicant, at the Examiner's convenience at (214) 953-6447.

Although Applicants believe no fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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